**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Class/Period: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_**

**The Distributive Property with Area Models**

**Directions:** To show the distributive property (for all numbers *a, b,* and *c,* *a(b + c) = ab + ac*), we can use an area model to help us.

**Section 1: Example**: 2(3 + 4)

2

3

4

1. First, split your big box into the number of sections **outside** the parentheses (2 sections).
2. Second, split the other side of the big box up into the number of sections in the parentheses (**ex**: for 3 and 4, we need to split the box into 3 + 4 = 7 sections).
3. Our answer is the total area or total number of little boxes we have, and that shows us that the Distributive Property works and that because we have 14 little boxes when we split our big box up into the appropriate number of little boxes, which is 2(7) or 2(3) + 2(4).

+

or 7, since 3 + 4 = 7

**Section 2: Use an area model to show the Distributive Property for the following numbers.**

1. 5(2 + 1) =
2. 3(4 + 7) =
3. 4(5 + 3) =
4. 6(2 + 5) =
5. 3 (6 + 2) = \_\_\_\_\_\_

Section 3: Use the distributive property to represent the area model.

1.

4

*x*

6

2.

*x*

3

7

Find the GCF to create an equivalent expression.

3.

36

27*x*

4.

24

15*x*